

20678

S/120/61/000/001/010/062
EO32/E114

26.2022

AUTHORS: Mikhaylov, V.A., Roynishvili, V.N., and
Chikovani, G.Ye.

TITLE: Controlled Spark Chamber - A New Instrument for the
Observation of Charged Particle Tracks

PERIODICAL: Pribery i tekhnika eksperimenta, 1961, No.1, pp.39-42

TEXT: The spark chamber takes the form of a number of discharge gaps between conducting plates located in a neon atmosphere. If immediately after the passage of the particle a high-voltage pulse having a length of about 10^{-7} sec is applied to the plates then a localized streamer discharge takes place roughly along the path of the particle. The width of the streamer is 2 to 3 mm and the intensity is sufficient for it to be photographed. Three such chambers have been built and tested. The spark gaps were formed by sets of parallel plates alternately connected to each other. In two of the chambers the assembly was mounted in a glass cylinder with metal plates at each end. In the third chamber the system was mounted in a perspex container. The plates were made of brass (1 to 2 mm thick) and had an area of

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Controlled Spark Chamber - A New Instrument for the Observation of Charged Particle Tracks

11 x 14 cm². The spark gap was 8, 9 and 10 mm respectively. The working gas was neon ("high purity") at a pressure of 1.1 atm. The characteristics of the chamber were investigated using cosmic μ -mesons which passed through 3 rows of Geiger counters (A, 5 and B, Fig.1) and the spark chamber. The arrangement is shown schematically in Fig.1. The outputs of the three Geiger counters were fed into a coincidence circuit which then triggered the hydrogen thyratron ТГН1-325/16 (TGI1-325/16) which in turn applies the high-voltage pulse to the plates of the spark chamber. The device is not very dependent on the delay between the coincidence pulse and the high-voltage pulse (in the range 0-12 μ sec) provided rubber seals and other contaminating materials are not present in the apparatus. The chamber has a plateau in the range 6-11 kV/cm. The position of the particle trajectory can be determined to within a few tenths of a mm, while the error in the determination of the direction of motion of a particle as determined by two spark chambers at a distance of 50 cm apart was found to be

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Controlled Spark Chamber - A New Instrument for the Observation
of Charged Particle Tracks

5×10^{-4} radians. Acknowledgements are expressed to
T.S. Grigalashvili for assistance in the construction of the
apparatus and to D.V. Gersamia for taking part in the
interpretation of the results.
There are 6 figures and 6 references: 1 Soviet and 5 non-Soviet.

ASSOCIATION: Institut fiziki AN GruzSSR
(Physics Institute, AS Georgian SSR)

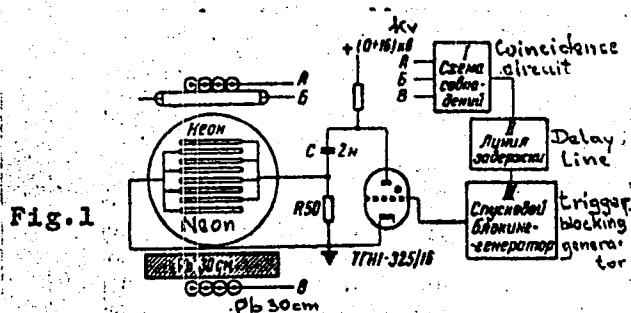
SUBMITTED: February 25, 1960

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Controlled Spark Chamber - A New Instrument for the Observation
of Charged Particle Tracks



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CHIKOVANI, G.Ye.

Analysis of statistical methods for particle lifetime determination. Trudy Inst.fiz.AN Gruz.SSR 8:132-159 '62.

(MIRA 16:2)

(Mathematical statistics)

(Particles (Nuclear physics))

CHIKOVANI, G. Ye.; MIKAYLOV, V. A.; ROINISHVILI, V. N.;

Track Spark Chamber

Report submitted for the 8th Intl. Conf. on Cosmic Rays (IUPAP) Jaipur, India,
2-14 Dec 1963

MIKHAYLOV, V.A.; ROYNISHVILI, V.N.; CHIKOVANI, G.Ye.

Spark chambers. Zhur. eksp. i teor. fiz. 45 no.3:818-819 S '63.
(MIRA 16:10)

1. Institut fiziki AN Gruzinskoy SSR.
(Cloud chamber)

ACCESSION NR: AP4018351

8/0251/64/033/001/0049/0055

AUTHORS: Chikovani, G. Ye.; Roynishvili, V. N.; Mikhaylov, V. A.

TITLE: Investigations of track spark chamber working mechanism (Presented by E. L. Andronikashvili, Academician, 14 December 1963)

SOURCE: AN GruzSSR. Soobshcheniya, v. 33, no. 1, 1964, 49-55

TOPIC TAGS: spark chamber, particle trajectory, Wilson chamber, pulse generator, luminous column, mesh electrode

ABSTRACT: An experimental "track" spark chamber which produces the track of a particle analogous to those observed in a Wilson chamber has been described. The chamber is a rectangular cell $100 \times 60 \times 20 \text{ cm}^3$, filled with high purity neon gas at one atmosphere pressure. The stereophotography of particle tracks is obtained through a mesh electrode charged by a 200 kv potential. An electronic scheme reduces the time lag between the penetrating particle and the high voltage pulse generator trigger in the $1\text{-}200 \mu \text{ sec}$ interval. The investigations included the number of luminous columns, the width of the columns, and the root-mean-square

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ACCESSION NR: AP4018351

deviation of the column from the actual trajectory as a function of time-lag between particle penetration and pulse trigger. For 200 μ sec time lag τ the pulse duration is 5% longer than at lower values of τ . The luminous columns are seen to be distributed very close to the particle tracks and at $\tau = 1 \mu$ sec the maximum pulse measurement gives a value of 300 Bev/sec. Orig. art. has: 6 figures and 1 formula.

ASSOCIATION: Akademiya nauk Gruzinskoy SSR, Institut fiziki, Tiflis (Academy of Science, Georgian SSR, Institute of Physics)

SUBMITTED: 14Dec63

DATE ACQ: 19Mar64

ENCL: 00

SUB CODE: GP

NO REF SOV: 001

OTHER: 002

Card 2/2

CHIKOVANI, G.Ye.; ROYNISHVILI, V.N.; MIKHAYLOV, V.A.

Measurability of ionization in a spark chamber with isotropic properties. Socb. AN Gruz. SSR 35 no.3:539-542 S '64. (MIRA 17:11)

1. Institut fiziki AN GruzSSR, Tbilisi. Predstavleno akademikom
E.L. Andronikashvili.

ACCESSION NR: AP4031144

S/0056/64/046/004/1228/1239

AUTHORS: Chikovani, G. Ye.; Roynishvili, V. N.; Mikhaylov, V. A.

TITLE: Investigation of the mechanism of operation of track spark chambers

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 4, 1964, 1228-1239

TOPIC TAGS: particle detector, spark chamber, track spark chamber, .
glow center, streamer discharge

ABSTRACT: The characteristic of a 100 x 60 x 19 cm operating track chamber have been studied, in which a distinctly new mode of spark chamber operation (called the "track mode") has been realized. A statistical model of the development of the luminous centers is proposed to explain the operation of the track chamber. Experiments have been performed to ascertain the distribution of the discharges from electrode to electrode, their nature, and their dependence on

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ACCESSION NR: AP4031144

the pulse duration. Other characteristics of the track chambers investigated are the number of luminous centers, the widths of the centers, and the rms deviation of the centers from the true trajectory as a function of the delay time between the particle passage and the time of application of the high voltage pulse. The test results agree well with the statistical model proposed. It is emphasized that, along with the grid time resolution, short recovery time, and simplicity of ordinary spark chambers the track spark chamber has isotropic properties which permit the three-dimensional recording of tracks of particles traveling at all angles, individually or in large groups. It is expected that the spark chamber will become a powerful tool for the study of elementary particle interactions. "The authors thank Professor E. L. Andronikashvili for stimulation of the work and discussion of the results, their co-workers at the Cloud Chamber Photograph Analysis Laboratory of Institut fiziki AN GruzSSR, to their co-workers of the Programming Group of the Institut Fiziki for the computer operation, and also V. Ya. Oshmyan for assis-

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ACCESSION NR: AP4031144

tance in the preparation of the chambers." Orig. art. has: 8 figures and 16 formulas.

ASSOCIATION: Institut Fiziki AN GruzSSR (Institute of Physics AN GruzSSR)

SUBMITTED: 12Nov63

DATE ACQ: 07May64

ENCL: 01

SUB CODE: NP, GP

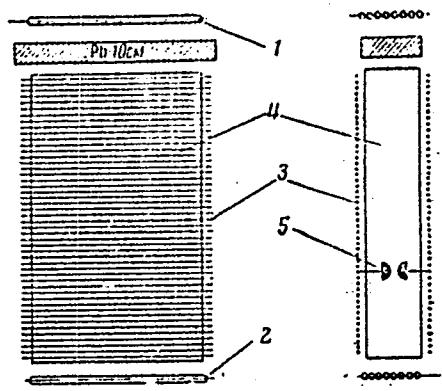
NR REF SOV: 006

OTHER: 005

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ACCESSION NR: AP4031144

ENCLOSURE: 01



Schematic arrangement of experimental setup.
(in two projections): 1, 2 - GM counters,
3 - grid electrodes, 4 - glass vessel filled
with neon, 5 - shunting discharge gap

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CHIKOVANI, G.Ye.; SHRABSHTEYN, S.A.

Semiautomatic device for processing photographs of tracks in
a Wilson chamber. Fiz. chast. vys. energ. no.1:97-103 '65.
(MIRA 18:12)

GARIBASHVILI, D.I.; GRIGALASHVILI, T.S.; KAKHIDZE, G.P.; CHIKOVANI, G.Ye.;
SHRABSHTEYN, S.A.

Multichannel pulse analyzer for an ionization calorimeter on
capacitive memory cells and a system of information output.
Fiz. chast. vys. energ. no.1:105-109 '65.

(MIRA 18:12)

BERGER, A.R.; GARIBASHVILI, D.I.; KAKHIDZE, G.P.; KAKAURIDZE, D.B.;
CHIKOVANI, G.Ye.

Multichannel system for analyzing pulses from an ionization
calorimeter. Fiz. chast. vys. energ. no.1:111-116 '65.
(MIRA 18:12)

MIKHAYLOV, V.A.; ROYNISHVILI, V.N.; CHIKOVANI, G.Ye.

Spark chamber with a large discharge gap. Fiz. chast. vys. energ.
no.1:85-89 '65. (MIRA 18:12)

L 15164-66

ACC NR: AP5027018

SOURCE CODE: UR/0120/65/000/005/0106/0107

AUTHOR: Chikovani, G. Ye.; Shrabshteyn, S. A.

ORG: Institute of Physics, AN GruzSSR (Institut fiziki AN GruzSSR)

TITLE: Using an ST-2M telegraph receiver for extracting information from counters

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 106-107

TOPIC TAGS: counter, pulse counter, scaler, printer

ABSTRACT: The use of an ST-2M teletype apparatus with an automatic STAP attachment is described for extracting information (experimental data) from a semi-automatic processor of cloud-chamber diagrams. The information is delivered either in printed form (if the information in the counters is kept in a binary-decimal code) or as a 5-track perforation of a 17-mm punch tape. Each punch tape "line" (one print character) takes 7 pulses: one starting, 5 code, and one stop pulse. A ShI-27 step-by-step switch whose spindle is mechanically coupled to the teletype is used for control; among other advantages, this arrangement obviates the necessity of synchronizing the scanning frequency with the teletype rpm's. A control circuit of

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UDC: 681.142.62

L 15164-66

ACC NR: AP5027018

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the step-by-step switch is shown, and its operation is briefly described. "In conclusion, the authors wish to thank V. Nadareishvili for his help in the mechanical design, and A. Kongolidi and P. Dzhavrov for their help in wiring." Orig. art. has: 1 figure.

SUB CODE: 09 / SUBM DATE: 02Sep64 / ORIG REF: 002

Card ^{FU} 2/2

L 15163-66 EWT(d)/EWP(1) IJP(c) BE/GG/JAT(BF)

ACC NR: AP5027019

SOURCE CODE: UR/0120/65/000/005/0107/0109

AUTHOR: Chikovani, G. Ye.; Shrabshetyn, S. A. 4/3

ORG: Institute of Physics, AN GruzSSR (Institut fiziki AN GruzSSR)

TITLE: Punch-tape to standard punch-card information transcription 16c, 44

SOURCE: Pribery i tekhnika eksperimenta, no. 5, 1965, 107-109

TOPIC TAGS: information processing, punch card, punch tape

ABSTRACT: A circuit is described which permits transcribing information (experimental data) from a 5-track 17-mm punch tape to a standard 80-column punch card by means of an M-20 input puncher and a STAP transmitter attachment to an ST-2M telegraph apparatus. The circuit controls tape transport and scanning by means of a 4-bank step-by-step switch. A similar switch controls intermediate storage thyratrons. "In conclusion, the authors wish to thank A. Kongolidi and V. Kutsiya for their help in wiring the circuits." Orig. art. has: 3 figures.

SUB CODE: 09 / SUBM DATE: 02Sep64 / ORIG REF: 002

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UDC: 681.142.62

2

L 45797-66 EWT(1)
ACC NR: AR6023260

SOURCE CODE: UR/0058/66/000/003/A054/A055

AUTHOR: Mikhaylov, V. A.; Roynishvili, V. N.; Chikovani, G. Ye.

TITLE: Spark chamber with large discharge gap

SOURCE: Ref zh. Fizika, Abs. 3A470

REF. SOURCE: Sb. Fiz. chastits vysok. energiy. No. 1. Tbilisi, Metsniyeroba, 1965, 85-89

TOPIC TAGS: spark chamber, spark gap, neon, argon, gas discharge counter, particle track

ABSTRACT: The construction is described and the main characteristics are presented of spark chambers with large discharge gaps (5 and 10 cm). The working volume (26 liters) was filled with commercial argon or neon of VCh (high purity) grade at atmospheric pressure. The direction of the spark corresponded to the direction of the particle up to 45° inclination angles. The chambers had 100% registration efficiency in the entire track-inclination angle interval. For the chamber with 5 cm discharge gap, the error in the determination of the angle was 2.5×10^{-3} radian. V. Tolbuzin. [Translation of abstract]

SUB CODE: 20

Cord 1/1

L 45814-66 EWT(m)

ACC NR: AR6023259

SOURCE CODE: UR/0058/66/000/003/A053/A053

AUTHOR: Chikovani, G. Ye.; Shrabshetyn, S. A.

TITLE: Semi-automatic instrument for the processing of photographs of tracks in a
cloud chamber 14 40 3

SOURCE: Ref zh. Fizika, Abs. 3A457

REF. SOURCE: Sb. Fiz. chastits vysok. energiy. No. 1. Tbilisi, Metsniyereba, 1965,
97-103

TOPIC TAGS: cloud chamber, particle track, track analysis, computer coding/ST-2M
perforator

ABSTRACT: A semi-automatic projector is described for the measurement of the co-
ordinates of points of the track on cloud-chamber photographs. The results of the
measurements are punched on tape in the code called for by the computer. Service
markers (the number of the frame, the origin of the coordinates of the track etc.)
are punched manually on the keyboard of the ST-2M apparatus. A block diagram of the
apparatus is presented, the control circuits, the reversing cell, the delay block,
and the pulse-shaping block, and the printing control circuit are presented. [Trans-
lation of abstract]

SUB CODE: 20, 09

Card 1/1 hs

ACC NR: AT6025062

SOURCE CODE: UR/3204/65/000/001/0105/0109

AUTHOR: Garibashvili, D. I.; Grigalashvili, T. S.; Kakhidze, G. P.; Chikovani, G. Ye.
Shravshetyn, S. A.

ORG: none

TITLE: Multichannel pulse analyzer²⁵ for an ionization calorimeter using capacitive memory cells and an information readout system

SOURCE: AN GruzSSR. Institut fiziki. Fizika chastits vysokikh energii, no. 1, 1965, 105-109

TOPIC TAGS: multichannel analyzer, calorimeter, computer memory, data readout, ionization chamber

ABSTRACT: The authors describe a multichannel system intended for the memorization of information obtained from an ionization calorimeter and for printing out the output data in digital form. The multichannel analyzer is used with the ionization calorimeter of the Bakuriani High-Mountain Station of the Physics Institute of AN GruzSSR, which contains approximately one hundred ionization chambers. The ionization chamber records events in excess of a given threshold (amplitudes 0.1 - 100 v), which are then stored and printed. The memory system, the gating circuit, the pulse stretching system, and the auxiliary apparatus are described. The readout system consists of a timing pulse, master generator, selector switch, digital voltmeter, printer unit, and auxiliary equipment. The path of the signal from the ionization

Cord 1/2

ACC NR: AT6025062

chamber to the printer is traced in detail. The authors thank senior scientist R. Ye. Kazarov and technicians A. I. Kongolidi, G. B. Stepanov, and P. V. Dehavrov for help in the construction and adjustment of the apparatus. Orig. art. has: 4 figures.

SUB CODE: 20, 09/ SUBM DATE: 00/ ORIG REF: 001

Card 2/2

ACC NR: AT6025063 SOURCE CODE: UR/3204/65/000/001/0111/0116

AUTHOR: Berger, A. R.; Garibashvili, D. I.; Kakhidze, G. P.; Kakauridze, D. B.; Chikovani, G. Ye.

ORG: none

TITLE: Multichannel system for the ²⁵analysis of pulses from an ionization calorimeter

SOURCE: AN GruzSSR. Institut fiziki. Fizika chastits vysokikh energii, no. 1, 1965, 111-116

TOPIC TAGS: calorimeter, ionization chamber, multichannel analyzer, magnetic core storage, transistorized amplifier

ABSTRACT: The authors describe a multichannel system capable of reliably handling the signal from the approximately five hundred channels of the Tskhra-tskaro ionization calorimeter. To increase the reliability, the number of vacuum tubes has been reduced to a minimum of three per channel, which is approximately half that used in similar installations. Each channel consists of a preamplifier, final amplifier, gating circuit, and magnetic memory. All channels feed into a common commutator and regulating unit. The remaining circuit elements are transistors and magnetic core devices. The magnetic core devices are used in the memory. A block diagram of the system and detailed descriptions of the preamplifier, final amplifier, gating circuits, and memory cells are given. Orig. art. has: 5 figures and 1 formula.

SUB CODE: 20, 09/ SUBM DATE: 00

Card 1/1

ACC NR: AR6023697

SOURCE CODE: UR/0275/66/000/004/A031/A031

AUTHOR: Mikhaylov, V. A.; Roynishvili, V. N.; Chikovani, G. Ye.

TITLE: Long-gap spark chamber

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 4A222

REF SOURCE: Sb. Fiz. chastits vysok, energiy. No. 1, Tbilisi, Metsniyeroba, 1965, 85-89

TOPIC TAGS: spark chamber, spark gap

ABSTRACT: The construction and principal characteristics of long-gap (5 and 10 cm) spark chambers are presented. The chamber space (25 lit) was filled with commercial argon or HF-brand neon at atmospheric pressure. Within 45° , the direction of the spark was along the particle movement. Within the entire angular range of the tracks, the chambers showed a 100% efficiency of recording. For the 5-cm gap chamber, the error of angle determination was 0.0025 rad. V. T. [Translation of abstract]

SUB CODE: 20

Card 1/1

UDC:621.387.4

TSILASANI, Z.N.; CHIKOVANI, Kh.S.

Effect of additives on the water-retaining capacity of
cement stone. Trudy Inst. stroi. mekh. i seism. All Ouzb.
10a147-153 '64. (MIRA 18:11)

CHIKOVANI, K.S.

Some peculiarities of the changes in muscular tonus and voluntary movements in the localization of a dyshematogenic process in the brain stem. Soob. AN Gruz. SSR 30 no.5:657-661 My '63.
(MIRA 16:11)

1. Institut klinicheskoy i eksperimental'noy nevrologii AN Gruz SSR, Tbilisi. Predstavleno akademikom I.S.Beritashvili.

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DECEASED

1960

Chikovani, K. P.

1962/5

See ILC

Surgery

TSILOSANI, Z.N.; CHIKOVANI, Kh.S.

Water-retaining capacity of hardened mortar and concrete. Trudy
Inst.stroitelstva AN Gruz.SSR 8:77-85 '60. (MIRA 14:10)
(Mortar) (Cement)

CHIKOVANI, L.V.

Interrelationship between the degree of training and functional characteristics of different physiological systems of sportsmen possessing the "indefinite tone". Soob. AN GruzSSR 37 no.2:481-488 F '65. (MIRA 18:3)

1. Gruzinskiy gosudarstvennyy institut fizicheskoy kul'tury.
Submitted October 6, 1964.

CHIKOVANI, M. Ya.

"Obraz prikovannogo geroya Amirani v kolkhido-iberiyskom fol.'klore."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,
Moscow, 3-10 Aug 64.

CHIKOVANI, N.I.

Materials on the study of the mosses of Shiraki-Eldari.

Trudy Tbil. bot. inst. 22:149-157 '62.

(MIRA 17:2)

AUTHORS: Broude, V. L., Yeremenko, V. V., 20-119-5-19/59
Chikovani, N. N.

TITLE: The Structure of the Absorption and the
Photoelectric Conductivity Spectra of CdS Crystals
at 20°K (Struktura spektrov pogloshcheniya i
fotoprovodimosti kristallov CdS pri 20°K)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 119, Nr 5,
pp. 911-913 (USSR)

ABSTRACT: It was of interest to measure the coefficients of
absorption of light by CdS crystals within the short
wave range, as well as to estimate the changes of band
intensities connected with the distortions of the lattice.
In order to determine the nature of photoproduction, a
comparison of the spectral distribution of the absorption
coefficient with the spectral distribution of a steady
photoelectric current was of importance. The investigation
was carried out at 20°K and used a metal cryostat with

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The Structure of the Absorption and the
Photoelectric Conductivity Spectra of CdS Crystals
at 20°K

20-119-5-19/59

plane windows in which the sample was cooled by vapors of boiling hydrogen. The photoconductivity was measured in a glass monochromator with lengthened chamber ($F = 1 \text{ m}$) produced by Messrs. Leitz. The absorption coefficient was measured by photographic photometric measurement using a nine-stage attenuator. The authors succeeded in carrying out the measurement of the absorption curve up to a frequency of 20860 cm^{-1} in the polarization of light along the c-axis, and up to a frequency of 20680 cm^{-1} in the strong component of the spectrum. A diagram shows the curves of spectral distribution of the absorption coefficient for polarized light parallel and vertical to the optical axis of the CdS crystal at 20°K. Starting with the frequency of 20625 cm^{-1} the light is almost completely absorbed in a crystal of the thickness $15 - 20 \mu$. The absorption of the light within the range of frequencies above 20600 cm^{-1} is sufficiently stable in various samples.

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The Structure of the Absorption and the
Photoelectric Conductivity Spectra of CdS Crystals
at 20°K.

20-119-5-19/59

Within the range of long-wave narrow-band absorption the absorption coefficient in Band 10 changes a dozen times. Within the range of strong absorption the authors could not determine the curve $\alpha(\lambda)$, as they did not dispose of sufficiently thin crystals. They compared, however, the obtained absorption curves with the spectra of thin crystals existing in references and they could conclude the following: In the polarization of light along the optical axis of the crystal the first peak of photoproduction corresponds to the increase of the absorption coefficient in that range of the spectrum where the absorption does not change from sample to sample. The further increase of α leads to a decrease of the photoelectric current. Also the second peak of the photoelectric current is located on the rising branch of the absorption curve. The first maximum of the photoelectric current is located within the range of the lines 4 - 10, and the

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The Structure of the Absorption and the
Photoelectric Conductivity Spectra of CdS Crystals
at 20°K

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second maximum within the range of band 13. There are no changes whatever for the c-component on the curve of photoconductivity within the range of band 10. By proposal of E. I. Rashba the values of the steady photoelectric current at various wavelengths were compared with one another, the results of this comparison are mentioned in a table. There is no clear coincidence between the steady photoelectric current and the absorption coefficient of light. This speaks in favor of the fact that the dependence of photoconductivity on the absorption coefficient is complicated by the explicit dependence of the photoelectric current on the wave length of the absorbed light. Finally the author thanks A. F. Prihot'ko and E. I. Rashba for their active participation in the discussion of this work. There are 2 figures, 1 table, and 4 references, 4 of which are Soviet.

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The Structure of the Absorption and the
Photoelectric Conductivity Spectra of CdS Crystals
at 20°K.

20-119-5-19/59

ASSOCIATION: Institut fiziki Akademii nauk USSR (Institute of
Physics, AS Ukrainian SSR)

PRESENTED: December 6, 1957, by A. N. Terenin, Member, Academy of
Sciences, USSR

SUBMITTED: December 4, 1957

Card 5/5

CHIKOVANI, N. N.; TODUA, N. T.; NATADZE, G. M.

"Daily energy expenditure of agricultural workers."

report submitted at the 13th All-Union Congress of Hygienists,
Epidemiologists and Infectionists, 1959.

CHIKOVANI, N. N., KARADZE, G. M.

"The character and peculiarities of nutrition of adults."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, 1959.

CHIKOVANI, N.N.

Spectral dependence of the absorption coefficient in CdS
single crystals. Soob. AN Gruz. SSR 38 no. 3:541-546
Je. '65.

(MIRA 18:12)

1. Tbilisskiy gosudarstvennyy universitet. Submitted Dec. 2,
1964.

CHIKOVANI, N.M.

34428

S/185/61/006/006/C05/030
D299/D304

26.2420

AUTHORS: Broude, V.L., and Chykovani, N.M.

TITLE: Spectral distribution of photoconductivity in CdS
single crystals at 300, 77 and 20°K

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 6, 1961,
750

TEXT: It is pointed out that the complete article will appear in the Ukr. Fiz. Zh., v. 7, no. 2, 1962. An interpretation is proposed of the basic features of photoconductivity spectra of CdS single crystals, based on the assumption that the single crystals have mixed absorption in the spectral region under consideration. The interaction between light and the single crystals is accompanied by the appearance of two different excitation-states; no quasi-equilibrium distribution is established between these states during their lifetime. Both types of absorption are accompanied by the creation of carriers. The relationship between the two absorption types differs with spectral wavelength; hence the efficiency of carrier crea-

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Spectral distribution of ...

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D299/D304

tion as a result of light absorption (of the two types), varies
greatly with temperature. [Abstractor's note: Complete translation].

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CHIKOVANI, N. M.

9.4177 (1051, 1114)

35195

S/185/62/007/002/007/016
D299/D302

26.2420

AUTHORS: Broude, V.L., and Chykovani, N.M.

TITLE: Spectral distribution of photoconductivity in CdS
single-crystals at 300, 77 and 20°K

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 2, 1962,
167 - 171

TEXT: The work was reported to the First Ukrainian Congress on Physical Optics and Its Use in the National Economy, held at Kyiv in 1961. An extensive systematic study was made of the spectral distribution of photoconductivity of CdS single crystals at various temperatures; big lots of specimens were investigated. A figure shows the position of the photocurrent maxima, photocurrent maxima, plotted against specimen thickness (for 100 single crystals approximately). The experimental points form 3 fairly distinct branches; hence 3 types of specimens are distinguished. The obtained data were analyzed by comparing the spectral photoconductivity-distribution and the absorption curve. The excitation spectra (of photo-

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D299/D3Q2

Spectral distribution of photo- ...

conductivity and luminescence) of various single-crystals at 20°K, were compared. The comparison showed that the unique correspondence between the absorption coefficient and the magnitude of the photocurrent, was disturbed. The most important results were obtained by investigating the temperature dependence of the spectral photoconductivity-distribution of various types of crystals. Thereby a typical feature was the replacement of the "anticorrelation" (absorption peaks corresponding to photoconductivity minima) distribution curves at room- and liquid-nitrogen temperatures, by "correlation" curves (the absorption- and photocurrent peaks coincide) at liquid-hydrogen temperature. These results can be explained by assuming that the CdS single crystals have mixed (2 different types of) absorption and that the interaction between the light and the single crystals is accompanied by the formation of 2 different excitation states; no quasi-equilibrium distribution is established between these states. The 2 types of absorption are due to exciton and interband transitions; in both cases carriers are created. The relation between the two types of absorption differs with the spectral wavelength. The efficiency of carrier creation as a result of light

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Spectral distribution of photo- ...

S/185/62/007/002/007/016
D299/D302

absorption of both types, changes sharply with temperature. At low temperatures, the exciton processes of carrier creation are predominant, whereas at room temperature, the interband electron-transitions are mainly responsible for carrier creation. There are 4 figures and 7 references: 6 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: D.G. Thomas, J.J. Hopfield, Phys. Rev., 116, 573, 1959.

ASSOCIATION: Instytut fizyki AN URSR (Institute of Physics of the AS UkrRSR), Kyiv

SUBMITTED: April 17, 1961

Card 3/3

X

BROUDE, V.L.; CHIKOVANI, N.N. [Chikovani, N.M.]

Spectral distribution of the photoconductivity of cadmium
sulfide crystals at 300, 77, and 20°K. Ukr.fiz.zhur. 6 no.6:
750 N-D '61. (MIRA 16:5)
(Cadmium sulfide crystals--Spectra) (Photoconductivity)

L 2316-66 EWT(1)/EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/GG

ACCESSION NR: AP5016425

UR/0251/65/038/003/0541/0546

AUTHOR: Chikovani, N. N. 44.65

TITLE: Spectral dependence of the absorption coefficient of CdS single crystals 44/385

SOURCE: AN GruzSSR, Soobshcheniya, v. 38, no. 3, 1965, 541-546

TOPIC TAGS: cadmium sulfide, absorption coefficient, absorption edge, temperature dependence 27 27

ABSTRACT: This is a continuation of earlier work (DAN SSSR, v. 119, 1958, 911) in which the absorption coefficient was measured on unstressed (free) crystals at 20K. In the present investigation thinner samples were used (several tenths of a micron). By investigating the absorption spectra of crystals of different thicknesses, the author was able to determine the absorption curve over a wide spectral and temperature interval. The absorption coefficient was determined by the method described in the earlier paper. An increase in the temperature from 20 to 300K causes the absorption-band maxima to shift to the long-wave side, but this shift is approxi-

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L 2316-66

ACCESSION NR: AP5016425

3

mately half the value of the absorption edge. The results are interpreted on the basis of the present data on the band structure of CdS. At low temperatures, the band structure is such that excitons and electron-hole pairs are produced simultaneously, thus proving the earlier assumption that the absorption of CdS crystals has a mixed character. There is still no explanation for the presence of the background under the absorption bands of the A-exciton series. This report was presented by M. M. Marianashvili. Orig. art. has: 4 figures, 1 formula, and 2 tables.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tbilissi State University)

41.5

SUBMITTED: 02Dec64

ENCL: 00

SUB CODE: SS, OP

NR REF SOV: 003

OTHER: 003

Cord 2/2 *ad*

L 3522-66 EWT(1)/EWT(m)/I/EWP(t)/EWP(b) IJP(c) JD/GG
 UR/0251/65/039/001/0043/0047
 ACCESSION NR: AP5020105

AUTHOR: Chikovani, N. N. 44,55

TITLE: Two types of cadmium sulfide crystals

SOURCE: AN GruzSSR. Soobshcheniya, v. 39, no. 1, 1965, 43-47

TOPIC TAGS: photoconductivity, cadmium sulfide, crystal

ABSTRACT: The photoconductivity of CdS crystals was measured at room temperature as a means of examining the nature and cause of the numerous spectral characteristics of the compound. Results show that the maximum on the spectral distribution curve of sensitivity occurs at different wavelengths. The dependence of this maximum on thickness of sample indicates three varieties of CdS. In crystals of the first type, the maximum on the spectral curve depends on the thickness; the maximum of the photoconductivity curve is in the zone of relative transparency (50-98% absorption), and the spectral distribution of photoconductivity is marked by a rather sharp short-wave drop. In crystals of the second type, the maximum on the spectral curve of sensitivity is practically independent of the thickness, and it lies at $5080 \pm 15 \text{ \AA}$ (incident light polarized $\perp C$); the maximum of photoconductivity corresponds to almost 100% absorption, and most samples show only a small short-wave drop in

Card 1/2

L 3522-66

ACCESSION NR: AP5020105

sensitivity. Crystals of the third class also show no dependence of maximum on thickness; the maximum falls at 5065 Å, and there is practically no short-wave drop in photoconductivity. Photoconductivity curves of type 1 show two maximums; curves of types 2 and 3 show only one. The latter two are probably of the same origin. In type 2 a surface layer appears, sharply differentiated from the interior part. For type 1 the longitudinal and transverse photoconductivity values are the same in the long-wave region, but in the short-wave region the longitudinal current dies before the transverse current. The observed differences are probably due to differences in dependence of current-carrier lifetimes on wavelength. Orig. art. has: 3 figures.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tbilisi State University)

SUBMITTED: 02Dec64

INCL: 00

SUB CODE: 49,55 SS

NO REF SOV: 001

OTHER: 003

Card 2/2

LORTKIPANIDZE, R.S.; LOSABERIDZE, G.D.; CHIKOVANI, N.S.

Experimental study of vibrated brick panels. Trudy Inst.stroi.
dela AN Gruz.SSR 8:71-76 '60. (MIRA 14:10)
(Brick walls)

LORDKIPANIDZE, R.S.; DZHUGELI, D.D.; ZHORZHOLIANI, N.D.; LOSABERIDZE, G.D.;
SARIGO, B.P.; CHIKOVANI, N.S.

Experimental study of the stressed state of a large-span shell in
the process of assembly. Soob. AN Gruz. SSR 28 no.4:443-450 Ap '62.
(MIRA 18:1)

1. AN Gruzinskoy SSR, Institut stroitel'nogo dela, Tbilisi. Submitted
May 5, 1961.

CHIKOVANI, N.V.

Some new species and varieties of mosses of the Caucasus. Sootb.
AN Gruz. SSR 34 no.2:641-643 Je '64 (MIRA 18:1)

1. Institut botaniki AN Gruz. SSR. Submitted December 14,
1963.

CHIKOVANI, N.V.

Material on the bryophytes of the Shakhdag Range in Armenia.
Trudy Bct. inst. AN Arm.SSR 14:123-133 '64.

(MIRA 18:3)

S/058/62/000/006/032/15
A061/A101

AUTHORS: Purtseladze, I. M., Khitarishvili, L. S., Chikovani, R. I.,
Shkol'nik, A. L.

TITLE: A study of the optical properties of molybdenum trioxide MoO_3
PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 32, abstract 6V214
("Tr. Tbilissk. un-ta", 1960, v. 86, 439 - 448, English summary)

TEXT: A quantitative investigation has been conducted on absorption and reflection spectra of single crystals and polycrystalline MoO_3 films at temperatures between 90 and 465°K. The spectral coefficient of MoO_3 self-absorption displays a steep rise at $\sim 350 \text{ m}\mu$. This absorption edge is displaced, in films, toward the long wave side as compared with single crystals, and shifts toward the side of long waves during heating. In crystals subjected to X- and γ -irradiation and neutron bombardment in the reactor, the spectrum displays an additional absorption band at $350 \text{ m}\mu$, which is unstable and decays under the action of light. There is also a stable band at $\sim 900 \text{ m}\mu$ (with neutron bombardment). The $350 \text{ m}\mu$ band is a center consisting of an oxygen vacancy by which an electron has been

A study of the...

trapped, while the 900-m μ band is due to large aggregates of lattice imperfec-
tions.

S/058/62/000/006/032/136
A061/A101

[Abstracter's note: Complete translation]

Card 2/2

S/058/62/000/OC6/093/136
A057/A101

AUTHORS: Chikovani, R. I., Shkol'nik, A. L., Purtseladze, I. M.,
Khitarishvili, L. S.

TITLE: On the photoconductivity of single crystals of molybdenum
trioxide MoO_3

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 38, abstract 6E306
("Tr. Tbilissk. un-ta", 1960, 86, 449 - 458; English summary)

TEXT: The photoconductivity of MoO_3 single crystals, obtained by a
single, or multiple distillation of MoO_3 powder, and also of films of
this compound, obtained by evaporation in vacuum on a quartz backing, was
investigated. The experiments were carried out with non-irradiated
crystals, and also with crystals irradiated by X-rays, gamma-rays, and
neutrons. The region of photosensitivity of the crystals lies below $360\text{ m}\mu$
and coincides with the region of strong absorption. The photosensitivity
has a maximum at room temperature and is at the maximum in the average
20 - 30%. At temperatures above 70°C the photosensitivity disappears

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S/058/62/000/006/093/136
A057/A101

On the photosensitivity of ...

irreversibly. With time, a recovery of the photosensitivity takes place, which can be accelerated by annealing. Irradiation of the crystals with X-rays does not change their photosensitivity. Irradiation with gamma-rays effects a small increase of photosensitivity, and irradiation by neutrons - a loss. The photosensitivity is absent in thin films. The obtained results are explained by the presence of oxygen vacancies in the crystals, which are able to capture one or two electrons.

P. Konorov

[Abstracter's note: Complete translation]

Card 2/2

L 18387-63

EWI(1)/EWP(q)/EWT(m)/BDS

AFFTC/ASD/IJP(C)/SSD JD

ACCESSION NR: AP3003867

S/0181/63/005/007/1769/1775

AUTHORS: Mirtskhulava, I. A.; Chikovani, R. I.; Shkol'nik, A. I.

TITLE: Determining the parameters of local levels by induced infrared impurity photoconductivity in single crystals of CdS

SOURCE: Fizika tverdogo tela, v. 5, no. 7, 1963, 1769-1775

TOPIC TAGS: impurity conductivity, photoconductivity, infrared, Cd, S, induced conductivity, hole trapping, recombination, level, absorption band

ABSTRACT: The authors investigate in single crystals of unalloyed CdS the induced infrared impurity photoconductivity from local levels arising from preliminary excitation of the crystal by light, from deeper local levels, or from the absorption band itself. They studied the kinetics of this photoconductivity for various ratios of number of electrons at trapping levels to number of sites (or holes) at recombination levels. They obtained experimental results by the method proposed by I. A. Mirtskhulava (FTT, 5, 1514, 1963) which permits one to determine the basic parameters in CdS. Their results were $(1.5-3) \cdot 10^{-16} \text{ cm}^2$ for capture cross section of a photon by a center, $(2-5) \cdot 10^{10} \text{ cm}^{-3}$ for concentration

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L 18387-63

ACCESSION NR: AP3003867

of electrons and $(3-8) \cdot 10^{10} \text{ cm}^{-3}$ for concentration of holes at the local levels, and $(2-4) \cdot 10^{-12} \text{ cm}^3/\text{sec}$ and $(0.8-2) \cdot 10^{-11} \text{ cm}^3/\text{sec}$ for capture cross sections of electrons from the conduction band at the deep levels and at the holes respectively. The authors conclude that their technique for determining parameters will be very effective in special alloys of crystals, permitting the determination of the basic characteristics of the parameters of previously introduced impurities, and then the investigation of the crystals by induced infrared impurity photoconductivity. Orig. art. has: 7 figures and 8 formulas.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tbilisi State University)

SUBMITTED: 18Dec62

DATE ACQ: 15Aug63

ENCL: 00

SUB CODE: PH

NO REF SOV: 012

OTHER: 005

Card 2/2

1. (1984-85) FRT(T)/EWP(1)/EWP(1) 11/11/85 (AW) (SD) 1/1/85

1. (1984-85) FRT(T)/EWP(1)/EWP(1) 11/11/85 (AW) (SD) 1/1/85

FILE: 1. (1984-85) FRT(T)/EWP(1)/EWP(1) 11/11/85 (AW) (SD) 1/1/85

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1. (1984-85) FRT(T)/EWP(1)/EWP(1) 11/11/85 (AW) (SD) 1/1/85

1. (1984-85)

L 11984-00

ACCESSION NR: AP4046002

These samples were doped with Ag, Cu and Cl. The thermally stimulated luminescence (TL) in these substances was also investigated. The apparatus described earlier (PTT 11, 1984) was used in a metallic cryostat in the temperature range from -196°C to -100°C. The samples were heated at a rate of 0.2 deg/sec. The single crystal samples were either not annealed or annealed at 100°C. The peaks on the thermally-stimulated luminescence were identified by means of a method proposed in this article. The results are compared with some earlier work. It is shown that the peaks are due to the recombination of excitations. The effect of the copper impurity in ZnO on the TL is also investigated. The kinetic of the intrinsic absorption band. The kinetic of conductivity was investigated with the crystals.

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ACCESSION NR: AP4046602

of suitable spectral composition. The energy of
of the centers was investigated from
duration of

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... and ...

SUBMITTED: 1 Mar 64

SUB CODE: SS, EM

NR REF SOV: 008

Card 3/3

008

DZHANELIDZE, R.B.; PURTSELADZE, I.M.; KHITARISHVILI, L.S.; CHIKOVANI, R.I.;
SHKOL'NIK, A.L.

Some optical and photoelectric properties of MoO_3 . Fiz. tver.
tela 7 no.8:2573-2575 Ag '65. (MIRA 18:9)

1. Tbilisskiy gosudarstvennyy universitet.

CHIKOVANI, R.I.

A method for studying local levels. Soob. AN Gruz. SSR 39 no.2:
283-286 Ag '65. (MIRA 18:9)

1. Tbilisskiy gosudarstvennyy universitet. Submitted December 2,
1964.

MIRTSKHULAVA, I.A.; CHIKOVANI, R.I.; SHKOL'NIK, A.L.; DZHAKHUTASHVILI, T.V.

Induced photoconductivity in single crystals of zinc sulfide
with impurities. Soob. AN Gruz. SSR 40 no.1:55-62 0 '65.
(MIRA 18:12)

1. Tbilisskiy gosudarstvennyy universitet. Submitted January
14, 1965.

L 8589-66

EWT(m)/EWG(m)/T/EWP(b)/EWA(m)-2/EWP(t)/EWT(1) IJF(c; AT/WW/JD/GG/RDM
ACCESSION NR: AP5019900 UR/0181/65/007/008/2573/2575

AUTHOR: ^{44, 55} Dzhanelidze, R. B.; ^{44, 55} Puttseladze, I. M.; ^{44, 55} Khitarishvili, L. S.; ⁴⁴ Chikovani, R. I.; ^{44, 55} Shkol'nik, A. L.

TITLE: Certain optical and photoelectric properties of molybdenum trioxide ⁸⁴

SOURCE: Fizika tverdogo tela, v. 7, no. 8, 1965, 2573-2575 ²⁷ ²⁷ ^B

TOPIC TAGS: molybdenum compound, ^{21, 44, 55} light absorption, ^{21, 44, 55} absorption edge, ^{21, 44, 55} electron capture, ^{21, 44, 55} crystal lattice vacancy, ^{21, 44, 55} photoelectric property

ABSTRACT: In view of the scarcity and contradictory nature of data on MoO₃, due for the most part to the difficulty of obtaining sufficiently large samples, the authors have produced large samples ((15--50) x (1--6) x (0.05--0.5) mm) of MoO₃ single crystals, whose optical-absorption spectra were investigated with allowance for reflection. The crystals exhibited strong absorption (350 nm and shorter wavelengths). The absorption edge shifted somewhat with increasing temperature toward the long-wave region. The results are shown in Fig. 1 of the Enclosure and are interpreted from the point of view of the level scheme of the electronic transitions shown in Fig. 2 of the Enclosure. In particular, the peaks near 350 and 900 nm, which can be appreciably strengthened or reduced by different treatments, are attributed to the presence of oxygen vacancies, capable of capturing one or two

Card 1/3

L 8589-66

ACCESSION NR: AP5019900

electrons. "The authors thank I. A. Mirtskhylava for interest in the work." Orig.
art. has: 2 figures. 44,55 44,55 6

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tbilisi State University)

SUBMITTED: 13Apr65

ENGL: 01

SUB CODE: SS

NR REF SOV: 005

OTHER: 001

Card 2/3

L 8589-66
ACCESSION NR: AP5019900

ENCLOSURE: 01

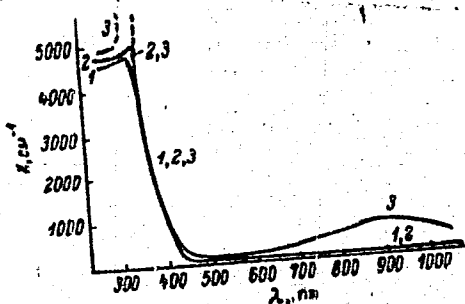


Fig. 1. Absorption spectra of single-crystal MoO_3 .

1 - Before irradiation, 2 - after x-irradiation, 3 - after neutron bombardment

jw
Card 3/3

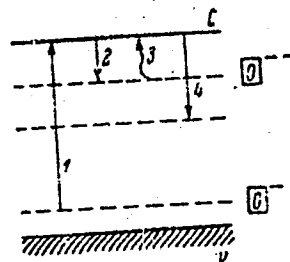


Fig. 2. Scheme of electronic transitions

L 04054-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6026677

SOURCE CODE: UR/0181/66/008/008/2326/2329

AUTHOR: Chikovani, R. I.; Pokrovskiy, Ya. Ye.

ORG: Institute of Radio Engineering and Electronics, AN SSSR, Moscow (Institut radiotekhniki i elektroniki AN SSSR)

TITLE: Determination of the photoionization cross section of negatively charged indium atoms in silicon

SOURCE: Fizika tverdogo tela, v. 8, no. 8, 1966, 2326-2329

TOPIC TAGS: photoionization, indium containing alloy, silicon base alloy, crystal impurity, atom property, negative charge

ABSTRACT: Photoionization cross section of negatively charged indium atoms in silicon was determined by the method of comparing the intrinsic photoconductivity with the impurity photoconductivity. This method is especially simple in the case of quasi-monopolar photoconductivity when the value of the intrinsic and impurity photoconductivities is determined by the same lifetime of the majority carriers. The value of the intrinsic photoconductivity in this case is written in the form

$$\delta V_1 = \frac{i_1 \tau}{q \mu n_0} J_1 (1 - R),$$

(1)

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L 04054-67

ACC NR: AP6026677

②

since in the intrinsic region all radiation entering the crystal is observed as the result of the generation of electron-hole pairs. With impurity excitation the photoconductivity has the form

$$\delta V_2 = \frac{i_2 \tau}{q \mu n_0} I_2 \frac{(1-R)(1-e^{-kd})}{1-Re^{-kd}}. \quad (2)$$

where I_1 and I_2 are the intensities of the incident radiation with intrinsic (1) and impurity (2) excitation; i_1 and i_2 are the currents to the specimen; R is the reflection coefficient, τ is the lifetime of the electrons; μ is their mobility; n_0 is the equilibrium concentration; $k = \sigma N$ is the absorption coefficient caused by impurities in concentration N ; σ is the photoionization cross section; d is the thickness of the specimen; and q is the electron charge. The expression for determining σ ultimately takes the form

$$\frac{\sigma Nd}{1-R} = \frac{i_1 i_2'}{i_2 i_1'}. \quad (3)$$

where i_1 , i_2 , i_1' , and i_2' are currents through the silicon and germanium in intrinsic and impurity photoconductivity, respectively. It is shown that the cross section is small and has a

C 2/3

L 04054-67

ACC NR: AP6026677

magnitude of the order of 10^{-18} cm^2 . The coefficient of radiative capture of an electron by a neutral indium atom proved to be equal to about $10^{-14} \text{ cm}^3 \cdot \text{sec}^{-1}$, which satisfactorily agrees with the value obtained on the basis of investigating the kinetics of photoconductivity. The authors thank S. G. Kalashnikov for his constant interest in the work and discussion of the results. Orig. art. has: 3 figures and 4 formulas.

SUB CODE: 20/ SUBM DATE: 25Dec65/ ORIG REF: 002/ OTH REF: 002

kh

3/3

CHIKOVANI, T. A.

"Opyt sravnitel'nogo izucheniya zhilishcha tipa 'dabazi'."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,
Moscow, 3-10 Aug 64.

SHTAYERMAN, Yu.Ya.; KHVOLES, A.R.; CHIKOVANI, T.D.

Limiting state of equilibrium of a concrete mixture. Soob. /
AN Grus. SSR 39 no.3:639-646 S '65. (MIRA 18:10)

1. Tbilisskiy institut gidroenergetiki i sooruzheniy imeni
Vintera. Submitted February 1, 1965.

CHIKOVANI, T.G.; LORIYA, M.L.

Effect of the drought of 1961-1962 on trees and shrubs in the
vicinity of Tiflis. Soob. AN Gruz. SSR 34 no.1:149-154 Ap'64
(MIRA 17:7)

KUMARITASHVILI, M.Z.; TSAGARELI, N.V.; CHIKOVANI, V.Ye.

New Research Institute. Tekst. prom. 21 no.10:21-22 0 '61.
(MIM 14:10)

1. Direktor Nauchno-issledovatel'skogo instituta tekstil'noy promyshlennosti Soveta narodnogo khozyaystva Gruzii (for Kumaritashvili). 2. Zamestitel' direktora po nauchnoy chasti Nauchno-issledovatel'skogo instituta tekstil'noy promyshlennosti Soveta narodnogo khozyaystva Gruzii (for TSagareli). 3. Uchenyy sekretar' Nauchno-issledovatel'skogo instituta tekstil'noy promyshlennosti Soveta narodnogo khozyaystva Gruzii (for Chikovani).
(Georgia--Textile research)

CHIKOVINSKIY, M., starshina I stat'i

In the accumulator pit. Starsh.-serzh. no.8:10 Ag '61. (MIRA 14:10)
(Submarine boats)

CHIKOVSKIY, A.

Planned assignment for mixed brigades in lumbering. Sots.
trud 6 no.7:131-132 J1 '61. (MIRA 16:7)

1. Zamestitel' nachal'nika otdela kadrov, truda i zarabotnoy
platy Leningradskogo tresta lesnoy promyshlennosti.
(Wages--Lumbering)

L 08086-67 EWT(1) GW
ACC NR: AT7001681

SOURCE CODE: UR/3174/65/000/055/0023/0027

AUTHOR: Chikovskiy, S. S. (Junior scientific worker)

ORG: Tenth Soviet Antarctic Expedition (Desyataya sovetskaya antarkticheskaya ekspeditsiya)

TITLE: Determination of the load-bearing capacity of the shore ice near Mirnyy

SOURCE: Sovetskaya antarkticheskaya ekspeditsiya, 1955-. Informatsionnyy byulleten', no. 55, 1965, 23-27

TOPIC TAGS: sea ice, arctic vehicle

ABSTRACT: One of the assignments of the ice-research group of the Tenth Soviet Antarctic Expedition was computation of the load-carrying capacity of the off-shore ice off Mirnyy to ensure the safety of loading operations across a number of kinds of ice which had to be traversed from the ice edge to the edge of the continent. A map shows the unloading operations and details are given on ice and weather conditions during the unloading period. The operations were carried out using six tractors (swamp vehicles) carrying about 18-20 tons of cargo, with a maximum load of 25 tons. The total amount moved by one of these vehicles with a 7-ton sledge was 32 tons. Several formulas were used in determining load-bearing capacity of the ice: on 12 January it was 50-60 tons, depending on the formula used, but this had decreased to the dangerous value of 36 tons by 22 January (unloading was not completed until 26 January). Orig. art. has: 1 figure and 2 formulas. [JPRS: 37,397]

SUB CODE: 13, 08 / SUBM DATE: 05May65 / ORIG REF: 004

Cord 1/1

0924-1454

CHIKOVSKIY, S.S.

Calculation of the average temperature of sea ice in the spring
and summer seasons. Trudy AANII 256:28-33 '61. (MIRA 15:8)
(Arctic Ocean--Sea ice)

CHIKOVSKIY, S.S.

Effect of the temperature of sea ice on its strength. Probl.
Arkt. i Antarkt. no.8:93-96 '61. (MIRA 15:3)
(Sea ice--Thermal properties)

LEVI, M.I.; ZININ, P.I.; SHTEL'MAN, A.I.; SHIRYAYEV, D.T.; MIRONOV, N.P.;
CHIKRIZOV, F.D.

Hereditary resistance to plague in *Meriones meridianus*. Bul.
eksp. biol. i med. 56 no.7:75-79 J1'63 (MIRA 17:3)

1. Iz Rostovskogo-na-Donu nauchno-issledovatel'skogo protivochumnogo instituta i Astrakhanskoy protivochumnoy stantsii. Predstavlena deystvitel'nym chlenom AMN SSSR N.N. Zhukovym-Verezhnikovym.

AKHMETOV, K.T.; DONCHENKO, P.A.; KUBYSHEV, N.N.; VOLKOV, I.P.; KARABETIAN, V.K.;
YELYAKOV, I.I.; CHIKRIZOV, M.V.; KHOBDABERGENOV, R.Zh.

Modernizing the industrial equipment of lead production and the
growth of labor productivity. TSvet. met. 36 no.7:11-19 J1
'63. (MIRA 16:8)

(Lead industry--Equipment and supplies)

CHIKRYZOV, G.S.

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C' 1960

1962/5

SEE ILC

GEOLOGY

NESMEYANOVA, S.I.; CHIKRYZOVA, L.G.; BOYKO, V.M.; KORNIYENKO, T.I.;
VISHNEVSKAYA, L.F.; VAZHOVA, T.V.

Studying the duration of immunity to smallpox vaccine in Uzbekistan.
Med. zhur. Uzb. no.8:65-68 Ag '61. (MIRA 15:1)

1. Iz Tashkentskogo instituta vaktsin i syvorotok (direktor -
A.B.Inogamov).
(UZBEKISTAN--SMALLPOX--PREVENTION) (IMMUNITY)

CHIKRYZOVA, Ye.G., red.; LYALIKOV, Yu.S., red.; LIPIS, B.V., red.;
DMITRENKO, N.Z., red.; SHCHETININA, Ye.A., red.; LEDVICH,
M.M., tekhn. red.

[Theory and practice of polarographic analysis] Teoriia i prak-
tika poliarograficheskogo analiza; materialy. Kishinev, Izd-
vo "Shtiintsa" Akad. nauk Moldavskoi SSR, 1962. 425 p.
(MIRA 15:12)

1. Vsesoyuznoye soveshchaniye po polyarograficheskomu analizu.
1st, 1959.

(Polarography—Congresses)

CHIKRYZOVA, Ye.G.

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